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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/849,781	05/04/2001	Michael Snyder	6523-028	9891

7590 10/10/2002

PENNIE & EDMONDS LLP  
1155 Avenue of the Americas  
New York, NY 10036-2711

EXAMINER
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TRAN, MY CHAU T

ART UNIT	PAPER NUMBER
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1639

DATE MAILED: 10/10/2002

11

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/849,781

Applicant(s)

SNYDER ET AL.

Examiner

My-Chau T. Tran

Art Unit

1641

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 05 August 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-107 is/are pending in the application.
- 4a) Of the above claim(s) '17-92 and 102-105' is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-16,93-101,106 and 107 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 May 0401 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6 & 10.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

1. Applicant's amendment filed 8/5/02 in Paper No. 9 is acknowledged and entered. Claims 106-107 are added. Claims 1-107 are pending.

#### ***Election/Restrictions***

2. Applicant's election with traverse of Group I (Claims 1-16 and 93-101) in Paper No. 9 is acknowledged. However because of the added Claims 106-107 and the inadvertent omission of Claims 63-64, the restriction grouping are amended as follows: Group I (Claims 1-16, 93-101, and 106-107); Group II (Claims 17-21 and 102-105); Group III (Claims 22-24); Group IV (Claim 25); Group V (Claims 26-48); Group VI (Claims 49 and part of 51-64); Group VII (Claims 50 and part of 51-64); Group VIII (Claim 78); Group IX (Claim 79); Group X (Claims 65 and part of 69-73); Group XI (Claims 66 and part of 69-73); Group XII (Claims 67 and part of 69-73); Group XIII (Claims 68 and part of 69-73); Group XIV (Claims 74-75); Group XV (Claims 76-77); Group XVI (Claims 80-87); Group XVII (Claims 88-91); Group XVIII (Claim 92).

The traversal is on the ground(s) that Claims 102-103 that is part of Group II and Group X (Claims 65 and part of 69-73) should be joined with Group I because the search is not burdensome. Group XI (Claims 66 and part of 69-73) be joined with Group II (Claims 17-21 and 102-105) because the search is not burdensome. Group XII (Claims 67 and part of 69-73) be joined with Group III (Claims 22-24) because the search is not burdensome. Group XIII (Claims 68 and part of 69-73) be joined with Group IV (Claim 25) because the search is not burdensome.

This is not found persuasive because these inventions are distinct for the reasons given in Paper No. 7 (e.g. each group have different structural format, operations (method steps), or function) and the searches required are not co-extensive thus requiring a burdensome search. Additionally, different patentability considerations are involved for each group. For example, a patentability determination for Group I would involve a determination of the patentability of a device that is a positionally addressable array while a patentability determination for a patentability determination for Group X would involve a determination of the patentability of a combination of method steps of contacting a probe with the array and detecting protein/probe interaction (independent of use). These considerations are very different in nature.

The requirement is still deemed proper and is therefore made **FINAL**.

3. Claims 17-92 and 102-105 are withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected inventions, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 9.
4. This application contains claims 17-92 and 102-105 are drawn to an invention nonelected with traverse in Paper No. 9. A complete reply to the final rejection must include cancellation of nonelected claims or other appropriate action (37 CFR 1.144) See MPEP § 821.01.
5. Claims 1-16, 93-101, and 106-107 are treated on the merit in this Office Action.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

7. Claims 1-11 and 106-107 are rejected under 35 U.S.C. 102(e) as being anticipated by Wagner et al. (US Patent 6,329,209).

Wagner disclosed a device of arrays of protein-capture agents that performed an assay in parallel a multitude of protein expressed by a cell or population of cells in an organism (col. 2, lines 58-62). The protein-capture agent would include biomolecule such as protein or polynucleotide (col. 4, lines 48-67). The array of protein-capture agents comprise a substrate and a plurality of patches arranged in discrete, known regions on the portions of the substrate surface covered by organic thin film (col. 9, lines 66-67 to col. 10, lines 1-12). Each patches comprised of protein-capture agents immobilized on the organic film and the array comprised a plurality of different protein-capture agents. The array comprises about 10 or more patches and the patches of the array are contained within an area of about 1 cm<sup>2</sup> (col. 10, lines 16-22 and 47-49). The array can have any number of a plurality of different protein-capture agents (col. 11, lines 1-11). For instance, an array comprise of about 10,000 patches would comprise of about 10,000 different protein-capture agents (col. 11, lines 28-33). Therefore, the number of different

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protein-capture agents on an array will vary depending on the application desired (col. 11, lines 12-13). The substrate of the array can comprise of materials such as glass or polymers such as polydimethylsiloxane (col. 13, lines 59-67 to col. 14, lines 1-14). The device of Wagner anticipates the claimed invention.

***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

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invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claims 93-101 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wagner et al. (US Patent 6,329,209) in view of Foster et al. (US patent 4,44,879).

The device of Wagner is applied for the reasons discussed above.

Wagner's device differs from the claimed invention in failing to disclose packaging the device in a kit format.

Foster teaches packaging a device for performing an immunoassay in a kit format (figure 6; col. 15, lines 14-29). The kit comprises containers for the components such as reagents that are use for performing the assay method.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the device of Wagner by packaging it in a kit format as taught by Foster because packaging the device in a kit format would provide the advantage of economy and convenience. Further, it would have been obvious to one of ordinary skill in the art to include in the kit the reagent in a solid form format because the type of reagents is dependent on the type of assay method being performed. Therefore, one would have known to package the device of Wagner in a kit format as taught by Foster in order to provide an economic and convenience form of performing an immunoassay. One would have had reasonable expectation of success for packaging the device of Wagner in a kit format as taught by Foster because both teaches an immunoassay method in which a probe is immobilized on a substrate (Wagner: col. 10, lines 9-12; Foster: col.3, lines 25-27).

12. Claims 1-13 and 15-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor (US Patent 6,103,479).

Taylor teaches a device for performing a high throughput and high content screening of the physiological response of cells to biological active compounds (col. 6, lines 40-43). The array of cells on a base is in a non-uniform fashion such that each “well” or group of wells on the support may be unique in its cell binding selectivity (col. 8, lines 20-27). The arrays of cells may contain a variety of cell binding molecules that permit attachment and growths of cells in the wells (col. 8, lines 52-55). The cells are non-uniformly bound to the array in wells on a base (col. 13, lines 5-8). The well is a specific spot on the base and does not require any particular depth (col. 8, lines 41-44). The base can comprise of various materials such as glass (col. 8, lines 38-40). The array of cells can also contains a fluid delivery system that mates with the base (col. 13, lines 57-63; fig. 7).

Taylor’s device differs from the claimed invention in failing to specifically disclose the numbers of different cells use in the array.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the numbers of different cells such as 100 or more to be use in the device of Taylor because Taylor teaches that a variety of cells can be contain in an array. One of ordinary skill in the art would have been motivated to do this in order to simultaneously detect a plurality of different target within a single array (col. 6, lines 40-47).



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13. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor (US Patent 6,103,479) in view of Wang et al. (US Patent 5,922,617).

The device of Taylor is applied for the reasons discussed above.

Taylor's device differs from the claimed invention in failing to disclose that the different substances are not bound to the surface of the solid support.

Wang disclose a device for rapid screening a large number of events (col. 2, lines 49-53). The device comprises a microarray of bound compound. The microarray would involve a plurality of different components (col. 2, lines 60-67 to col. 3, lines 1-11). The bound component can be covalently bound to the solid substrate surface or indirectly bound, using one or more intermediates, which intermediates may serve as bridges between the bound component and the solid substrate (col. 3, lines 17-25). The intermediates may involve chemical entities or physical entities such as magnetic beads (col. 5, lines 60-64).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the array of Taylor by placing the particles taught by Wang et al. into the cavity of the array because Wang et al. teaches that particles such as magnetic beads offers the advantages of providing great flexibility, where the bound components can be arrayed in numbers or sizes, and with the beads, the arrays are reversible and can be retrieved for further processing (col. 6, line 63-67). The use of arrays containing particles offers the advantages of greater surface area for a reaction and the ability to screen a multiplicity of chemical compounds simultaneously.

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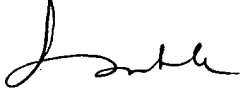
***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to My-Chau T. Tran whose telephone number is 703-305-6999. The examiner can normally be reached on M-F 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Long V. Le can be reached on 703-305-3399. The fax phone numbers for the organization where this application or proceeding is assigned are 703-308-4242 for regular communications and 703-872-9307 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0196.

mct  
October 1, 2002

  
LONG V. LE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1600  
10/04/02